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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,644	08/10/2001	Philip T. Hughes	P 274259 DIV3-P7100 US/3	5433

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EXAMINER	
MURPHY, RHONDA L	
ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/925,644	HUGHES ET AL.	
	Examiner	Art Unit	
	Rhonda Murphy	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 August 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/22/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1- 40 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-36 of U.S. Patent No. US 6,553,020 in view of Dasgupta (US 5,926,101).

Regarding claim 1, Hughes teaches a communications system, the system comprising: a plurality of nodes, each node having: receiving means for receiving a signal transmitted by wireless transmitting means; transmitting means for wireless transmission of a signal; and, means for determining if a signal received by said node includes information for another node and causing a signal including said information to be transmitted by said transmitting means to another node if said received signal includes information for another node; each node having one or more substantially unidirectional point-to-point wireless transmission links, at least some of the nodes

having plural substantially unidirectional point-to-point wireless transmission links (**US 6,553,020; claim 1**).

Hughes fails to explicitly disclose each of said links being to one other node only, the links being arranged such that at least some of the nodes are not linked only to the nearest neighbor node(s).

However, Dasgupta teaches each link connecting to one other node only (Fig. 2) and some of the nodes are not only linked to the nearest neighbor node(s) (Fig. 2, node 1 linked to nodes 2, 3 and 4).

In view of this, it would have been obvious to one skilled in the art to modify Hughes system by providing links that connects nodes near and far, so as to provide a direct means of communication between nodes that are close and farther away from one another.

Regarding claim 2, Hughes further teaches a system wherein the nodes are linked so as to form transmission path loops thereby to provide plural choices of path for the transmission of a signal between at least some of the nodes (**US 6,553,020; claim 1**).

Regarding claim 3, Hughes further teaches a system wherein each loop consists of an even number of links (**US 6,553,020; claim 1**).

Regarding claim 4, Hughes further teaches a system wherein for each node that has plural links to other nodes, each of said plural links to another node is associated with a time slot (**US 6,553,020; claim 1**).

Regarding claim 5, Hughes further teaches a system wherein each link for each node is associated with a distinct time slot (**US 6,553,020; claim 1**).

Regarding claim 6, Hughes further teaches a system wherein the allocation of time slots to the links can be varied such that a link may selectively be associated with more than one time slot (**US 6,553,020; claim 23**).

Regarding claim 7, Hughes further teaches a system wherein each node has a direct line-of-sight link with at least one other node such that each node can transmit a signal to another node in line-of-sight with said each node (**US 6,553,020; claim 21**).

Regarding claim 8, Hughes further teaches a system wherein each node comprises means for transmitting a signal including said information to another node if and only if a signal received at said node includes information for another node (**US 6,553,020; claim 22**).

Regarding claim 9, Hughes further teaches a system wherein each node is stationary (**US 6,553,020; claim 2**).

Regarding claim 10, Hughes further teaches a system wherein the number of nodes is less than the number of links (**US 6,553,020; claim 3**).

Regarding claim 11, Hughes further teaches a system wherein each node is arranged to be in a transmission mode for a time period which alternates with a time period for a reception mode (**US 6,553,020; claim 4**).

Regarding claim 12, Hughes further teaches a system wherein at least one node is arranged not to transmit to any other node information in a signal received by said at least one node when that information is addressed to said at least one node (**US 6,553,020; claim 24**).

Regarding claim 13, Hughes further teaches a system wherein each node is arranged not to transmit to any other node information in a signal received by said at least one node when that information is addressed to said at least one node (**US 6,553,020; claim 25**).

Regarding claim 14, Hughes further teaches a system wherein each node has addressing means for adding to information in a received signal the address of a node to which a signal including said information is to be routed when said information is for another node. (**US 6,553,020; claim 5**).

Regarding claim 15, Hughes further teaches a system wherein the addressing means includes means for determining the route of information through the system and adding an appropriate address to the information accordingly (**US 6,553,020; claim 6**).

Regarding claim 16, Hughes further teaches a system further comprising a central system controller for determining the route of information through the system (**US 6,553,020; claim 7**).

Regarding claim 17, Hughes further teaches a system wherein at least one node has means for determining if a received signal includes information for said at least one node and processing means for processing information in a signal addressed to said at least one node (**US 6,553,020; claim 8**).

Regarding claim 18, Hughes further teaches wherein the transmitting means of the nodes are arranged to transmit signals at frequencies greater than about 1 GHz (**US 6,553,020; claim 9**).

Regarding claim 19, Hughes further teaches wherein the link between two nodes is arranged to use simultaneously two or more frequency channels (**US 6,553,020; claim 10**).

Regarding claim 20, Hughes further teaches wherein said receiving and transmitting means are arranged to transmit and detect circularly polarized radiation (**US 6,553,020; claim 11**).

Regarding claim 21, Hughes further teaches wherein the transmitting means includes a highly directional transmitter antenna (**US 6,553,020; claim 12**).

Regarding claim 22, Hughes further teaches wherein the receiving means includes a highly directional receiver antenna (**US 6,553,020; claim 13**).

Regarding claim 23, Hughes further teaches wherein each node is substantially identical. (**US 6,553,020; claim 14**).

Regarding claim 24, Hughes further teaches wherein the system is connected to a conventional trunk network for providing access to other networks (**US 6,553,020; claim 15**).

Regarding claim 25, Hughes further teaches a further node connected by a data connection to one of the nodes of the system and arranged to transfer a signal to or receive a signal from the trunk network or both (**US 6,553,020; claim 16**).

Regarding claim 26, Hughes further teaches wherein a data storage server is connected to or provided at a node (**US 6,553,020; claim 17**).

Regarding claim 27, Hughes further teaches wherein at least one link of a node is arranged to use a first transmission frequency and at least one other link of said node is arranged to use a second transmission frequency (**US 6,553,020; claim 18**).

Regarding claim 28, Hughes further teaches wherein some of the nodes are allocated to subscribers and some of the nodes are not allocated to subscribers, at least some of said non-allocated nodes being solely for carrying information traffic between subscriber nodes. (**US 6,553,020; claim 19**).

Regarding claim 29, Hughes teaches a method of communications, the method comprising the steps of: (A) transmitting a signal from one node to another node along a substantially unidirectional point-to-point wireless transmission link between said nodes; (B) receiving said signal at said other node; (C) determining in said other node if the signal received by said other node includes information for a further node and transmitting a signal including said information from said other node to a further node along a substantially unidirectional point-to-point wireless transmission link between said nodes if said signal includes information for a further node; and, (D) repeating steps (A) to (C) until said signal reaches its destination node (**US 6,553,020; claim 26**).

Hughes fails to explicitly disclose the links being arranged such that at least some of the nodes are not linked only to the nearest neighbor node(s).

However, Dasgupta teaches links arranged such that some of the nodes are not only linked to the nearest neighbor node(s) (Fig. 2, node 1 linked to nodes 2, 3 and 4).

In view of this, it would have been obvious to one skilled in the art to modify Hughes system by providing links that connects nodes near and far, so as to provide a

direct means of communication between nodes that are close and farther away from one another.

Regarding claim 30, Hughes further teaches a method wherein for each node that has plural links to other nodes, each of said plural links to another node is associated with a time slot, and each transmission step on a link of said one node occurs during a distinct time slot and each receiving step on a link of said other node occurs during a distinct time slot (**US 6,553,020; claim 26 and 27**).

Regarding claim 31, Hughes further teaches a method comprising the step of varying the allocation of time slots to the links such that a link is selectively associated with more than one time slot (**US 6,553,020; claim 28**).

Regarding claim 32, Hughes further teaches a method wherein each node adds to information in a received signal the address of a node to which a signal including said information is to be routed when said information is for another node. (**US 6,553,020; claim 29**).

Regarding claim 33, Hughes further teaches a method wherein each node has addressing means, the addressing means determining the route of the information through the system and adding an appropriate address to the information accordingly (**US 6,553,020; claim 30**).

Regarding claim 34, Hughes further teaches a method wherein a central system controller determines the route of information through the system (**US 6,553,020; claim 31**).

Regarding claim 35, Hughes further teaches a method comprising the step of each node transmitting a signal including said information to another node if and only if a signal received at said node includes information for another node (**US 6,553,020; claim 36**).

Regarding claim 36, Hughes further teaches a method including the steps of determining in at least one node if a received signal includes information for said at least one node and processing the information in a signal addressed to said at least one node (**US 6,553,020; claim 32**).

Regarding claim 37, Hughes further teaches a method wherein the signals are transmitted at frequencies greater than about 1 GHz (**US 6,553,020; claim 33**).

Regarding claim 38, Hughes further teaches a method wherein there are at least two possible paths for transfer of data between a source node and a destination node, and comprising the step of transmitting a copy of said data on each of said at least two paths. (**US 6,553,020; claim 34**).

Regarding claim 39, Hughes further teaches a method wherein there are at least two possible paths for transfer of data between a source node and a destination node, and comprising the steps of transmitting from the source node a part only of said data on each of said at least two paths and reconstructing the data from said transmitted parts of said data in the destination node (**US 6,553,020; claim 35**).

Regarding claim 40, Hughes further teaches a telecommunications switching device, comprising a communications system according to claim 1 (**US 6,553,020; claim 20**).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 8:00 - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rhonda Murphy
Examiner
Art Unit 2667

rlm

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6/8/05